

WHAT IS CLAIMED IS :

1. A stereoscopic display device comprising a transmissive image reproducing element, light source means, optical means to direct the light emitted by one light source towards the right eye and to direct the light emitted by the other light source towards the left eye, and control means for displaying alternately an image for the right eye and an image for the left eye on the image reproducing element, and for activating the source emitting light for the right eye only when the image for the right eye is displayed and for activating the source emitting light for the left eye only when the displayed image is for the left eye, wherein the optical means comprise mirror means and the light sources and the image reproducing element are installed on the same side of the mirror means.

15 2. A stereoscopic display device according to claim 1, wherein the mirror means are of the converging type.

20 3. A stereoscopic display device according to claim 1, wherein the mirror means provide parallel beams towards the eyes.

4. A stereoscopic display device according to claim 1, wherein the mirror means are of the Fresnel type.

25 5. A stereoscopic display device according to claim 2, wherein the mirror means are of the Fresnel type.

30 6. A stereoscopic display device according to claim 4, characterized in that the Fresnel mirror means comprise first mirror elements for directing the light of the corresponding source to the right eye and second mirror elements for directing the light of the other source towards the left eye.

7. A stereoscopic display device according to claim 6, characterized in that the first and second mirror elements form an alternate succession.

8. A stereoscopic display device according to claim 6, characterized in that the mirror elements form stripes elongated in one direction.

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5 9. A stereoscopic display device according to claim 1, characterized in that the mirror means form cylindrical mirror means or ellipsoido-paraboloid mirror means.

10. A stereoscopic display device according to claim 1, characterized in that the light sources are elongated in the same direction.

11. A stereoscopic display device according to claim 1, characterized in that the image reproducing element has a rectangular shape and in that the light sources are elongated along one side of this image reproducing element.

12. A stereoscopic display device according to claim 1, characterized in that the image reproducing element comprises a liquid crystal display element.

13. A stereoscopic display device according to claim 1, characterized in that the image for the right eye is formed during a field of a frame and the image for the left eye is formed during the other field of the frame.

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14. A stereoscopic display device comprising a transmissive image reproducing element, light source means, optical means to direct the light emitted by light source means towards the right eye and towards the left eye, and control means for displaying alternately an image for the right eye and an image for the left eye on the image reproducing element, characterized in that the light source means comprises one single light source and in that the optical means comprise mirror means comprising movable mirror elements associated with

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mirror control means able to control the orientation of the mirror elements in such a way that each element has a first and a second positions, the first position directing the light towards the right eye when the image for the right eye is displayed on the transmissive image reproducing element, and the second position directing the light from the light source towards the left eye when the displayed image is for the left eye.

15. A stereoscopic display according to claim 14,  
10 characterized in that the mirror elements form stripes elongated in one direction.

16. A stereoscopic display according to claim 14,  
characterized in that the mirror elements are of the punctual  
15 type, these mirror elements forming a matrix arrangement, a  
plurality of such elements being provided on each line of the  
matrix and a plurality of mirror elements being provided on each  
column of the matrix.